

REMARKS/ARGUMENTS

Claims 19-36 are pending in this application. By this Amendment, Applicant AMENDS Claims 24, 25, 30, and 34.

Applicant greatly appreciates the Examiner's indication that Claims 30 and 31 would be allowable if amended to overcome the 35 U.S.C. § 112, second paragraph rejection and to include all of the features of the base claim and any intervening claims. Applicant has amended Claim 30 to recite the features recited in Claims 24-29 and to overcome the 35 U.S.C. § 112, second paragraph rejection as discussed below. Accordingly, Applicant respectfully submits that Claim 30 is allowable.

Applicant affirms election of Nd from category A and Dy from category B. Claim 19 is generic to both category A and category B. Accordingly, Applicant respectfully requests that the Examiner rejoin, consider, and allow the non-elected subject matter from category A and category B.

The Examiner objected to the Drawings because the feature of "at least a portion of the outer periphery of the magnet assembly is covered with a ferromagnetic material" recited in Claim 28 is not shown in the drawings. Because one of ordinary skill in the art would easily understand this feature and because this feature is not essential to the understanding of the present invention, Applicant respectfully submits that it is not necessary for the drawings to show this feature. See MPEP § 608.02(d). Accordingly, Applicant respectfully requests reconsideration and withdrawal of this objection to the Drawings.

On page 3 of the outstanding Office Action, the Examiner rejected Claims 24-36 under 35 U.S.C. § 112, second paragraph, for allegedly being indefinite.

With respect to Claim 24, the Examiner alleged that the feature of "substantially in a ring" is indefinite because the Specification describes a C or U shape. Applicant has amended Claim 24 to recite "substantially in a C or U shape."

With respect to Claims 25 and 34, the Examiner alleged that the features of "the sintered magnet" and "the second plane," respectively, lack antecedent basis. Applicant has

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amended Claim 25 to recite “a sintered magnet” and has amended Claim 34 to depend upon Claim 27, which recites the feature of “a second plane.”

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of Claims 24-36 under 35 U.S.C. § 112, second paragraph.

On page 4 of the outstanding Office Action, the Examiner rejected Claim 19 under 35 U.S.C. § 102(b) as being clearly anticipated by Ito et al. (“Magnetic Flux Loss In Rare-earth Magnets Irradiated With 200 MeV Protons”).

Applicant respectfully traverses this rejection of Claim 19.

Applicant’s Claim 19 recites:

A permanent magnet for a particle accelerator to be used in an environment in which the magnet is exposed to a radiation at an absorbed dose of at least 3,000 Gy,

wherein the magnet includes R (which is at least one of the rare-earth elements), B (boron), **TM (which is at least one transition element and includes Fe)** and inevitably contained impurity elements, and

wherein **the magnet is a sintered magnet that has been magnetized to a permeance coefficient of 0.5 or more** and that has a coercivity H_{c1} of 1.6 MA/m or more. (emphasis added)

In Section No. 7 on page 4 of the outstanding Office Action, the Examiner alleged that the magnet sample N32Z in Table 1 on page 324 of Ito et al. teaches each of the features recited in Applicant’s Claim 19.

Applicant respectfully disagrees.

Magnet sample N32Z of Ito et al. clearly fails to include a transition element. Applicant discloses the use of a transition element, for example, in Table 1 on page 30 of Applicant’s Substitute Specification. Thus, Ito et al. fails to teach or suggest the feature of “TM (which is at least one transition element and includes Fe)” as recited in Claim 19.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of Claim 19 under 35 U.S.C. § 102(b) as being clearly anticipated by Ito et al.

On page 4 of the outstanding Office Action, the Examiner rejected Claims 19-23 under 35 U.S.C. § 103(a) as being unpatentable over Kato et al. (JP 2002-299110) in view of Applicant's Admitted Prior Art (AAPA).

In Section No. 9 on page 4 of the outstanding Office Action, the Examiner alleged that the combination of Kato et al. and AAPA teaches each of the features recited in Claim 19. In the second to last full paragraph on page 4 of the outstanding Office Action, the Examiner admitted that Kato et al. fails to teach or suggest the feature of "the magnet is a sintered magnet that has been magnetized to a permeance coefficient of 0.5 or more" as recited in Claim 19.

The Examiner alleged that AAPA on page 27 of Applicant's Substitute Specification renders this feature obvious. In the second paragraph of Section No. 9 on page 4 of the outstanding Office Action, the Examiner stated, "Applicant's specification on page 27 discloses the desirability of using magnet shapes having permeance coefficient values above 0.5 for the purpose of avoiding generation of an anti-magnetic field." This portion of Applicant's Substitute Specification is clearly directed to the present invention and is not, as alleged by the Examiner, directed to admitted prior art.

Further, the Examiner has failed to provide any prior art reference that teaches or suggests the feature of "the magnet is a sintered magnet that has been magnetized to a permeance coefficient of 0.5 or more" as recited in Claim 19. The Examiner has failed to provide any evidence that one of ordinary skill in the art would have known at the time of Applicant's invention of "the desirability of using magnet shapes having permeance coefficient values above 0.5 for the purpose of avoiding generation of an anti-magnetic field."

Instead of providing a prior art reference or other evidence, the Examiner has clearly and impermissibly used hindsight reasoning in this prior art rejection. The second paragraph of MPEP § 2142 states:

To reach a proper determination under 35 U.S.C. 103, the examiner must step backward in time and into the shoes worn by the hypothetical "person of ordinary skill in the art" when the invention was unknown and just before it was made. In view of all factual information, the examiner must then make a determination whether the claimed invention "as a whole" would have been

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obvious at that time to that person. **Knowledge of applicant's disclosure must be put aside in reaching this determination**, yet kept in mind in order to determine the "differences," conduct the search and evaluate the "subject matter as a whole" of the invention. The tendency to resort to "hindsight" based upon applicant's disclosure is often difficult to avoid due to the very nature of the examination process. However, impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art. (emphasis added)

That is, the Examiner has improperly relied upon page 27 of Applicant's Substitute Specification in this prior art rejection.

Thus, the combination of Kato et al. and what the Examiner incorrectly alleged to be AAPA fails to teach or suggest the feature of "the magnet is a sintered magnet that has been magnetized to a permeance coefficient of 0.5 or more" as recited in Applicant's Claim 19.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of Claim 19 under 35 U.S.C. § 103(a) as being unpatentable over Kato et al. in view of AAPA.

On page 4 of the outstanding Office Action, the Examiner rejected Claims 24-27, 29, 32, and 33 under 35 U.S.C. § 103(a) as being unpatentable over Lee et al. ("Permanent Magnet Array For The Magnetic Refrigerator") in view of Kato et al. On page 5 of the outstanding Office Action, the Examiner rejected Claim 28 under 35 U.S.C. § 103(a) as being unpatentable over Lee et al. in view of Kato et al., and further in view of Stelter (U.S. 5,635,889).

Applicant respectfully traverses these rejections of Claims 24-29, 32, and 33.

Applicant's Claim 24 recites:

A magnetic field generator to be used in an environment in which the magnetic field generator is exposed to a radiation at an absorbed dose of at least 3,000 Gy,

the magnetic field generator including a plurality of permanent magnets that are arranged substantially in a C or U shape so as to define a magnetic field generating space,

wherein each said permanent magnet includes R (which is at least one of the rare-earth elements), B (boron), **TM (which is at least one transition element and includes Fe)** and inevitably contained impurity elements, and

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wherein **the magnet has been magnetized to a permeance coefficient of 0.5 or more** and has a coercivity H_c of 1.6 MA/m or more. (emphasis added)

In Section No. 10 on pages 4 and 5 of the outstanding Office Action, the Examiner alleged that the combination of Lee et al. and Kato et al. teaches each of the features recited in Applicant's Claim 24. In the first full paragraph on page 5 of the outstanding Office Action, the Examiner admitted that Lee et al. fails to teach or suggest the feature of "the magnet has been magnetized to a permeance coefficient of 0.5 or more" as recited in Applicant's Claim 24. The Examiner relied upon Kato et al. to allegedly teach this feature.

Applicant respectfully disagrees.

First, Lee et al. fails to teach or suggest a magnet that includes a transition element. Thus, Lee et al. fails to teach or suggest the feature of "TM (which is at least one transition element and includes Fe)" as recited in Claim 24.

Second, as noted above, in Section No. 9 on page 4 of the Office Action, the Examiner admitted that Kato et al. fails to teach or suggest the feature of "the magnet is a sintered magnet that has been magnetized to a permeance coefficient of 0.5 or more" as recited in Claim 24. Further, the Examiner has failed to provide a prior art reference that teaches or suggests this feature in combination with the other features recited in Applicant's Claim 24.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of Claim 24 under 35 U.S.C. § 103(a) as being unpatentable over Lee et al. in view of Kato et al.

The Examiner has relied upon Stelter to allegedly cure various deficiencies in Lee et al. and Kato et al. However, Stelter, applied alone or in combination with Lee et al. and Kato et al., fails to teach or suggest the feature of "the magnet is a sintered magnet that has been magnetized to a permeance coefficient of 0.5 or more" in combination with the other features recited in Applicant's Claim 24.

On page 6 of the outstanding Office Action, the Examiner rejected Claims 24-26 and 35 under 35 U.S.C. § 103(a) as being unpatentable over Stelter in view of Kato et al. On page 7 of

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the outstanding Office Action, the Examiner rejected Claim 36 under 35 U.S.C. § 103(a) as being unpatentable over Stelter in view of Kato et al. and further in view of Ohkawa (U.S. 2,890,348).

Applicant respectfully traverses these rejections of Claims 24-26, 35, and 36.

In Section No. 12 on pages 6 and 7 of the outstanding Office Action, the Examiner alleged that the combination of Stelter and Kato et al. teaches each of the features recited in Claim 24. In the paragraph bridging pages 6 and 7 of the outstanding Office Action, the Examiner admitted that Stelter fails to teach the feature of “the magnet has been magnetized to a permeance coefficient of 0.5 or more” recited in Claim 24. The Examiner relied upon Kato et al. to allegedly teach this feature.

Applicant respectfully disagrees.

First, Stelter fails to teach or suggest a magnet that includes a transition element. Thus, Stelter fails to teach or suggest the feature of “TM (which is at least one transition element and includes Fe)” as recited in Applicant’s Claim 24.

Second, as noted above, in Section No. 9 on page 4 of the Office Action, the Examiner admitted that Kato et al. fails to teach or suggest the feature of “the magnet is a sintered magnet that has been magnetized to a permeance coefficient of 0.5 or more” as recited in Applicant’s Claim 24. Further, the Examiner has failed to provide a prior art reference that teaches or suggests this feature in combination with the other features recited in Applicant’s Claim 24.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of Claim 24 under 35 U.S.C. § 103(a) as being unpatentable over Stelter in view of Kato et al.

The Examiner has relied upon Ohkawa to allegedly cure various deficiencies in Stelter and Kato et al. However, Ohkawa, applied alone or in combination with Stelter and Kato et al., fails to teach or suggest the feature of “the magnet is a sintered magnet that has been magnetized to a permeance coefficient of 0.5 or more” in combination with the other features recited in Applicant’s Claim 24.

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On page 8 of the outstanding Office Action, the Examiner rejected Claims 24-27 and 34 under 35 U.S.C. § 103(a) as being unpatentable over Leupold (U.S. 5,347,254) and Leupold (U.S. H591), incorporated by reference, in view of Kato et al. On page 9 of the Office Action, the Examiner rejected Claim 28 under 35 U.S.C. § 103(a) as being unpatentable over Leupold (U.S. 5,347,254) and Leupold (U.S. H591) in view of Kato et al., and further in view of Stelter.

Applicant respectfully traverses these rejections of Claims 24-28 and 34.

In Section No. 14 on pages 8 and 9 of the outstanding Office Action, the Examiner alleged that the combination of Leupold (U.S. 5,347,254), Leupold (U.S. H591), and Kato et al. teaches each of the features recited in Applicant's Claim 24. In the paragraph bridging pages 8 and 9 of the outstanding Office Action, the Examiner admitted that Leupold (U.S. 5,347,254) and Leupold (U.S. H591) fail to teach or suggest the feature of "the magnet is a sintered magnet that has been magnetized to a permeance coefficient of 0.5 or more" as recited in Applicant's Claim 24. The Examiner relied upon Kato et al. to allegedly teach this feature.

Applicant respectfully disagrees.

First, Leupold (U.S. 5,347,254) and Leupold (U.S. H591) fail to teach or suggest a magnet that includes a transition element. Thus, Leupold (U.S. 5,347,254) and Leupold (U.S. H591) fail to teach or suggest the feature of "TM (which is at least one transition element and includes Fe)" as recited in Applicant's Claim 24.

Second, as noted above, in Section No. 9 on page 4 of the Office Action, the Examiner admitted that Kato et al. fails to teach or suggest the feature of "the magnet is a sintered magnet that has been magnetized to a permeance coefficient of 0.5 or more" as recited in Claim 24. Further, the Examiner has failed to provide a prior art reference that teaches or suggests this feature in combination with the other features recited in Applicant's Claim 24.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of Claim 24 under 35 U.S.C. § 103(a) as being unpatentable over Leupold (U.S. 5,347,254) and Leupold (U.S. H591), incorporated by reference, in view of Kato et al.

The Examiner has relied upon Stelter to allegedly cure various deficiencies in Leupold (U.S. 5,347,254), Leupold (U.S. H591), and Kato et al. However, Stelter, applied alone or in

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combination with Leupold (U.S. 5,347,254), Leupold (U.S. H591), and Kato et al., fails to teach or suggest the feature of “the magnet is a sintered magnet that has been magnetized to a permeance coefficient of 0.5 or more” in combination with the other features recited in Applicant’s Claim 24.

Accordingly, Applicant respectfully submits that the prior art of record, applied alone or in combination, fails to teach or suggest the unique combination and arrangement of elements recited in Claims 19, 24, and 30 of the present application. Claims 20-23, 25-29, and 31-36 depend upon Claims 19, 24, and 30 and are therefore allowable for at least the reasons that Claims 19, 24, and 30 are allowable.

In view of the foregoing amendments and remarks, Applicant respectfully submits that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

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